UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/609,690	07/05/2000	Handong Wu	252/110	4070

			EXAMINER
28875	7590	07/21/2004	GOLD, AVI M

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ART UNIT	PAPER NUMBER
2157	

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 April 2004*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25 and 30* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25 and 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date *4*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The amendment received on April 22, 2004 has been entered and fully

considered.

Response to Amendment

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-3, 5-15, and 19-25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Abraham et al., U.S. Patent No. 5,983,270 further in view of Gleeson

et al., U.S. Patent No. 5,627,829.

Abraham teaches the invention as claimed including the monitoring, logging and

blocking data packets transmitted via an intranetwork or internetwork (see abstract).

As to claim 1, Abraham teaches an apparatus for processing data packets,

comprising:

a first data processing unit adapted to filter incoming packets (col. 2, lines 31-60,

Abraham discloses a filter engine);

an addressable memory unit in which a plurality of instruction sets for packet

processing are stored (col. 2, lines 31-60; col. 7, Abraham discloses a set of rules and a

rules and logging database); and

a data bus connecting the addressable memory unit and the first and second

data processing units. (col. 2, lines 31-60; col. 7, Abraham discloses a network

connecting the units).

Abraham fails to teach the limitation further including a second data processing

unit adapted to process incoming packets according to one of said plurality of instruction

sets after the filtering, based on a thread assigned to the incoming packets by the first

data processing unit.

However, Gleeson teaches an apparatus and methods for connecting nodes to

wireless networks usibg standard network protocols (see abstract). Gleeson teaches

the use of a compression routine run after filtering that is called by the transmit manager

thread which is assigned before filtering (col. 20, lines 51-67; col. 21, lines 1-50).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Abraham in view of Gleeson to use a second data processing unit

adapted to process incoming packets according to one of said plurality of instruction

sets after the filtering, based on a thread assigned to the incoming packets by the first

data processing unit. One would be motivated to do so because it would allow for the

packets to be processed more efficiently.

Regarding claim 2, Abraham teaches the apparatus of claim 1, further comprising a policy condition table connected to said first data processing unit, said policy condition table having a plurality of rules stored therein (col. 2, lines 31-60; col. 7; col. 9, lines 43-65; Abraham discloses a set of rules in a database).

Regarding claim 3, Abraham teaches the apparatus of claim 1, further comprising a policy action table connected to said data bus and said addressable memory unit, wherein said policy action table stores at least one data processing policy (col. 2, lines 31-60; col. 7, Abraham discloses policies collected by a database).

Regarding claim 5, Abraham teaches the apparatus of claim 3, wherein said first data processing unit assigns a thread to each said incoming packet, wherein said thread corresponds to one of said policies stored in said policy action table (col. 2, lines 31-60; col. 9, lines 43-65; Abraham discloses mapping information).

Regarding claim 6, Abraham teaches the apparatus of claim 3, wherein said first data processing unit comprises logic for matching a first incoming packet to a stored first rule and for generating a first thread if the first incoming packet matches said first rule, said first thread identifying the location of one of said at least one data processing policies in said policy action table (col. 2, lines 31-60; col. 7; col. 9, lines 43-65).

Regarding claim 7, Abraham teaches the apparatus of claim 6, wherein said

second data processing unit is adapted to process the first incoming packet according

to said data processing policy corresponding to said first thread (col. 2, lines 31-60; col.

7; col. 9, lines 43-65).

Regarding claim 8, Abraham teaches the apparatus of claim 6, wherein said data

processing policy comprises a first address pointer to a starting address of a first set of

instructions and a second address pointer to a starting address of a state block stored in

said addressable memory unit, said state block used by said first set of instructions for

processing the first incoming packet (col. 5, lines 46-67; col. 6, lines 1-4; col. 7).

Regarding claim 9, Abraham teaches the apparatus of claim 6, wherein said

thread is assigned to said first incoming packet based on said first rule (col. 2, lines 31-

60; col. 7; col. 9, lines 43-65).

Regarding claim 10, Abraham teaches the apparatus of claim 6, wherein said

first processing unit further comprises logic for matching a second incoming packet to a

stored second rule and for generating a second thread if the second incoming packet

matches the second rule, said second thread identifying the location of one of said at

least one data processing policy in said policy action table (col. 2, lines 31-60; col. 7;

col. 9, lines 43-65).

Regarding claim 11, Abraham teaches the apparatus of claim 10, wherein said

second data processing unit is adapted to process the second incoming packet

according to said data processing policy corresponding to said second thread (col. 2,

lines 31-60; col. 7; col. 9, lines 43-65).

Regarding claim 12, Abraham teaches the apparatus of claim 10, wherein said

second thread is assigned to said second incoming packet based on said second rule

(col. 2, lines 31-60; col. 7; col. 9, lines 43-65).

Regarding claim 13, Abraham teaches the apparatus of claim 3, wherein said

first processing unit further comprises logic for matching a plurality of incoming packets

to a stored corresponding plurality of rules and for generating a thread for each packet

that matches one of said plurality of rules, each said thread identifying the location of

one of said at least one data processing policy in said policy action table (col. 2, lines

31-60; col. 7; col. 9, lines 43-65).

Regarding claim 14, Abraham teaches the apparatus of claim 13, wherein the

second data processing unit is adapted to process each packet according to said data

processing policy corresponding to said thread associated with said packet (col. 2, lines

31-60; col. 7; col. 9, lines 43-65).

Regarding claim 15, Abraham teaches the apparatus of claim 13, further

comprising a memory unit connected to said first data processing unit and to said

second data processing unit, said memory unit adapted to temporarily store packets

before processing by said second data processing unit (col. 2, lines 31-60; col. 7; col. 9,

lines 43-65).

Regarding claim 19, Abraham teaches a method for processing data packets,

comprising:

receiving a first incoming packet (col. 9, lines 43-65, Abraham discloses inbound

packets); and

processing the first incoming packet according to said stored policy (col. 9, lines

43-65, Abraham discloses the filtering of packets).

Abraham fails to teach the limitation further including determining whether to

admit the first incoming packet using filtering and assigning a first thread to the first

incoming packet if said first incoming packet is admitted after the filtering, wherein said

first thread points to a stored policy.

However, Gleeson teaches the use of a filtering and data compression program

which is called to determine if a data packet should be filtered out; and a receive

manager thread assigned to a packet after filtering and that thread calling a

decompressor routine (col. 20, lines 51-67; col. 21, lines 1-50).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Abraham in view of Gleeson to determine whether to admit the first

incoming packet using filtering and assigning a first thread to the first incoming packet if said first incoming packet is admitted after the filtering, wherein said first thread points to a stored policy. One would be motivated to do so because it would allow for the packets to be processed more efficiently.

Regarding claim 20, Abraham teaches the method of claim 19, wherein said stored policy comprises a first address pointer pointing to the location of a first set of instructions, and wherein said processing step utilizes said first set of instructions to process said first incoming packet (col. 7).

Regarding claim 21, Abraham teaches the method of claim 20, wherein said stored policy further comprises a second address pointer pointing to the location of a state block, and wherein said processing step utilizes said state block to process the first incoming packet (col. 5, lines 46-67; col. 6, lines 1-4).

Regarding claim 22, Abraham teaches the method of claim 19, further comprising the step of storing at least one policy in a policy action table (col. 2, lines 31-60; col. 7).

Regarding claim 23, Abraham teaches the method of claim 22, further comprising the step of updating said policy action table (col. 17, lines 7-67; col. 18, lines 1-14; Abraham discloses adding a rule to the database).

Regarding claim 24, Abraham teaches the method of claim 19, wherein said

determining step further comprises searching a policy condition table for a rule

corresponding to the contents of the first incoming packet (col. 2, lines 31-60; col. 7; col.

9, lines 43-65).

Regarding claim 25, Abraham teaches the method of claim 19, further comprising

the step of placing the first incoming packet in a processing queue after said assigning

step and before said processing step (col. 9, lines 43-65).

3.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham

and Gleeson further in view of Sinclair, U.S. Patent No. 6,069,827.

Abraham teaches the invention as claimed including the monitoring, logging and

blocking data packets transmitted via an intranetwork or internetwork (see abstract).

As to claim 4, Abraham teaches the method of claim 3. Abraham teaches an

addressable memory unit of one of said plurality of instruction sets (col. 7; Abraham

discloses a rules database) and an addressable memory unit of a state block (col. 5,

lines 46-67; col. 6, lines 1-4; Abraham discloses the system administrator having access

to what type of services and information each user may have access to on the Internet)

Abraham fails to teach the limitation further including the use of a first and

second address pointer element for identifying the locations in the addressable memory

unit.

However, Sinclair teaches memory systems for storing block structured data (see abstract). Sinclair shows evidence of the use of multiple pointers pointing to separate locations in a memory unit.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Abraham in view of Sinclair to use a first and second address pointer element for identifying the locations in the addressable memory unit. One would be motivated to do so because pointers allow for efficient retrieval of data from an addressable memory unit.

4.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham and Gleeson further in view of Murakami et al., U.S. Patent No. 6,065,065.

Abraham teaches the invention substantially as claimed including the monitoring, logging and blocking data packets transmitted via an intranetwork or internetwork (see abstract).

As to claim 16, Abraham teaches the method of claim 1.

Abraham fails to teach the limitation further including the second data processing unit comprising a plurality of general purpose processors for executing instructions in parallel.

However, Murakami teaches a parallel computer including a file system for storing and processing a massive volume of data (see abstract). Murakami teaches the invention use of a parallel computer system (col. 1, lines 50-67; col. 2, lines 1-14).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Abraham in view of Murakami to use a plurality of general purpose

processors for executing instructions in parallel. One would be motivated to do so

because executing instructions in parallel will allow the unit to run more processes at

once allowing for overall faster speeds.

5.   Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Abraham, U.S. Patent No. 5,983,270, in view of Gleeson, U.S. Patent No. 5,627,829,

further in view of Murakami et al., U.S. Patent No. 6,065,065.

Abraham teaches the invention as claimed including the monitoring, logging and

blocking data packets transmitted via an intranetwork or internetwork (see abstract).

As to claim 30, Abraham teaches an apparatus for processing data packets,

comprising:

a first data processing unit adapted to filter incoming packets (col. 2, lines 31-60,

Abraham discloses a filter engine);

an addressable memory unit in which a plurality of instruction sets for packet

processing are stored (col. 2, lines 31-60; col. 7, Abraham discloses a set of rules and a

rules and logging database); and

a data bus connecting the addressable memory unit and the first and second

data processing units (col. 2, lines 31-60; col. 7, Abraham discloses a network

connecting the units);

wherein a policy condition table connected to said first data processing unit, said

policy condition table having a plurality of rules stored therein (col. 2, lines 31-60; col. 7;

col. 9, lines 43-65; Abraham discloses a set of rules in a database);

wherein a policy action table connected to said data bus and said addressable

memory unit, wherein said policy action table stores at least one data processing policy

(col. 2, lines 31-60; col. 7, Abraham discloses policies collected by a database);

wherein said first data processing unit comprises logic for matching a first

incoming packet to a stored first rule and for generating a first thread if the first incoming

packet matches said first rule, said first thread identifying the location of one of said at

least one data processing policies in said policy action table (col. 2, lines 31-60; col. 7;

col. 9, lines 43-65);

wherein said second data processing unit is adapted to process the first incoming

packet according to said data processing policy corresponding to said first thread (col.

2, lines 31-60; col. 7; col. 9, lines 43-65);

wherein said data processing policy comprises a first address pointer to a

starting address of a first set of instructions and a second address pointer to a starting

address of a state block stored in said addressable memory unit, said state block used

by said first set of instructions for processing the first incoming packet (col. 5, lines 46-

67; col. 6, lines 1-4; col. 7);

wherein said first processing unit further comprises logic for matching a second

incoming packet to a stored second rule and for generating a second thread if the

second incoming packet matches the second rule, said second thread identifying the

location of one of said at least one data processing policy in said policy action table (col.

2, lines 31-60; col. 7; col. 9, lines 43-65);

wherein said second data processing unit is adapted to process the second

incoming packet according to said data processing policy corresponding to said second

thread (col. 2, lines 31-60; col. 7; col. 9, lines 43-65);

wherein a memory unit connected to said first data processing unit and to said

second data processing unit, said memory unit adapted to temporarily store packets

before processing by said second data processing unit (col. 2, lines 31-60; col. 7; col. 9,

lines 43-65);

wherein the apparatus includes a control logic unit coupled to an input (col. 9,

lines 43-65; Abraham discloses policies input by operators of the computers) and the

policy condition table for feeding an arithmetic logic unit (col. 9, lines 43-65; Abraham

discloses policies stored and processed by a rules and logging database), which is in

turn coupled to the policy action table and the state block for generating an output (col.

9, lines 43-65; Abraham discloses that the policies are passed to the filter executive

where they are optimized and sent to the filter engine).

Abraham fails to teach the limitation further including a second data processing

unit adapted to process incoming packets according to one of said plurality of instruction

sets after the filtering, based on a thread assigned to the incoming packets by the first

data processing unit and wherein said second data processing unit comprises a plurality

of general purpose processors for executing instructions in parallel.

However, Gleeson teaches an apparatus and methods for connecting nodes to wireless networks usibg standard network protocols (see abstract). Gleeson teaches the use of a compression routine run after filtering that is called by the transmit manager thread which is assigned before filtering (col. 20, lines 51-67; col. 21, lines 1-50) but fails to teach the second data processing unit comprising a plurality of general purpose processors for executing instructions in parallel.

However, Murakami teaches a parallel computer including a file system for storing and processing a massive volume of data (see abstract). Murakami teaches the invention use of a parallel computer system (col. 1, lines 50-67; col. 2, lines 1-14).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Abraham in view of Gleeson to use a second data processing unit adapted to process incoming packets according to one of said plurality of instruction sets after the filtering, based on a thread assigned to the incoming packets by the first data processing unit. One would be motivated to do so because it would allow for the packets to be processed more efficiently.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Abraham in view of Murakami to use a plurality of general purpose processors for executing instructions in parallel. One would be motivated to do so because executing instructions in parallel will allow the unit to run more processes at once allowing for overall faster speeds.

6.   Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Abraham, Gleeson, and Murakami further in view of Scales, U.S. Patent No.

5,761,729.

Abraham teaches the invention as claimed including the monitoring, logging and

blocking data packets transmitted via an intranetwork or internetwork (see abstract).

As to claim 17, Abraham teaches the method of claim 16.

Abraham fails to teach the limitation further including at least one said general

purpose processor comprising a complex instruction set computer processor.

However, Scales teaches a distributed computer system including a distributed

shared memory (see abstract). Scales shows evidence of the use of a complex

instruction set computer processor (col. 1, lines 63-67; col. 2, lines 1-7, 49-67; col. 3,

lines 1-8, 41-63).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Abraham in view of Scales to use a complex instruction set

computer processor. One would be motivated to do so because a complex instruction

set processor can perform several low-level operations and can deal with packet

complexity.

As to claim 18, Abraham teaches the method of claim 16.

Abraham fails to teach the limitation further including at least one said general

purpose processor comprising a reduced instruction set computer processor.

However, Scales teaches a distributed computer system including a distributed

shared memory (see abstract). Scales shows evidence of the use of a reduced

instruction set computer processor (col. 1, lines 63-67; col. 2, lines 1-7, 49-67; col. 3,

lines 1-8, 41-63).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Abraham in view of Scales to use a reduced instruction set

computer processor. One would be motivated to do so because a reduced instruction

set processor allows for rapid execution of a sequence of simple instructions.

Response to Arguments

7.   Applicant's arguments with respect to claims 1-25 have been considered but are

moot in view of the new ground(s) of rejection.

Conclusion

8.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

9.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

U.S. Pat. No. 5,615,340 to Dai et al.

U.S. Pat. No. 6,647,418 to Maria et al.

U.S. Pat. No. 6,493,752 to Lee et al.

U.S. Pat. No. 6,253,321 to Nikander et al.

U.S. Pat. No. 6,262,776 to Griffits.

U.S. Pat. No. 6,675,218 to Mahler et al.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Avi Gold whose telephone number is 703-305-8762.

The examiner can normally be reached on M-F 8:00-5:30 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ario Etienne can be reached on 703-308-7562. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Avi Gold

Patent Examiner

Art Unit 2157

AMG

SALEH NAJJAR
PRIMARY EXAMINER